

Attorney Docket No.: J3704(C)  
Serial No.: 10/538,360  
Filed: June 13, 2005  
Confirmation No.: 6009

### **REMARKS**

The subject amendment is submitted in a good faith effort to advance the prosecution of the subject application and to consolidate the issues for appeal. Entry thereof is respectfully requested.

Claim 1 has been amended to incorporate the requirements of claim 3, further identifying the diacid. Claim 4 has been amended to change its dependency from cancelled claim 3 to claim 1. Claim 3 has been cancelled without prejudice.

Claims 1-4, 6-8, and 13-15 stand rejected over the Abstract of JP 61-238894 (Sunstar KK) in view of WO 97/14401 (Nakajima et al.). This rejection is respectfully traversed.

The subject invention is directed to a hair treatment composition that employs a combination of a selected disaccharide, a selected organic diacid and a guanidinium salt, the disaccharide and guanidinium salt being in a specified weight ratio, as a means of repairing and restoring damaged hair.

As demonstrated by the data provided in the subject application, treatment composition 1 (also referred to as Example 1) a shampoo containing, among other components, a combination of 1.0 wt. % trehalose (a disaccharide) and 0.50 wt% succinic acid (an organic diacid meeting the requirements of amended claim 1) was found to provide hair treatment advantages over Example A, an otherwise identical composition lacking trehalose and succinic acid, but containing 1.20 wt. % of trimethyl glycine (not present in composition 1). In a panel test of sixty consumers Example 1 was found to have significant advantages over comparative Example A. Example 2, a composition containing only 0.4 wt.% of trehalose, 0.10 wt.% of adipic

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acid (no succinic acid) and 0.10 wt.% of guanidine carbonate (not present in Example 1) was also rated by the test panel as having significant advantages over comparative Example A. Compare Figures 1 and 2. Moreover, the benefits provided by the guanidine salt-containing formulation of Composition 2, were achieved at a combined diacid/polysaccharide level that was 1/3 of the level employed in Example 1.

Sunstar KK is directed to detergent compositions that contain anionic surfactant, oligosaccharide and "builder" all in amounts as therein more particularly described. Sunstar KK discloses disaccharides, trisaccharides, tetra- and pentasaccharides as suitable for use therein. "Builder", understood as meaning "thickener", is said to be an organic builder such as succinic acid, malic acid (a hydroxy diacid), etc.. or inorganic builder such as sodium tripolyphosphate, nitrilo triacetate, etc.. There is nothing in Sunstar KK that discloses or suggests the inclusion of a guanidinium salt as required by the subject claims. Further, there is nothing in Sunstar KK in any way predictive of the improvement in repair/respiration properties afforded by the combination of disaccharide, diacid and guanidinium salt described by the subject claims.

Nakajima et al. is directed to a cosmetic composition comprising (A) a selected amide and (B) at least one agent selected from the group consisting of polyhydric alcohols, vegetable extracts and organic acids and salts thereof. Nakajima et al. is directed primarily to skin treatment compositions that are said to improve skin roughness and wrinkles by enhancing the water-retaining ability of the skin's horny layer. A review of the entirety of Nakajima et al. suggests that moisturization is achieved by the use of the amide, which is tailored to penetrate into the skin and the like and hold water, thereby promoting the ability of the horny layer

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to retain moisture. According to Nakajima et al. Component B acts synergistically with the amide to further enhance the water-retaining ability of the horny layer.

There is nothing in Nakajima et al. that discloses or suggests the subject combination of disaccharide, diacid and guanidine salt. The citation does refer to the use of a hetero-polysaccharide derived from the callus of a plant belong to Polyanthes L. as being among the vegetable extracts suitable for use therein. The citation exemplifies compositions containing this polysaccharide, and references Japanese Patent Application Laid-open No. 10997/1989 (abstract attached) as describing the preparation thereof. See, for example, Examples 2, 3 and 4. The heteropolysaccharide described Japanese Patent Application Laid open No. 10997/1989 contains arabinose, mannose, galactose, glucuronic acid and xylose as constituent components. It is not a disaccharide as described by the subject claims. It is respectfully submitted that there is nothing in Nakajima et al. that discloses or suggests the subject combination of disaccharide, diacid and guanidine salt. While certain guanidine derivatives are among the components that may be included in the compositions described by Nakajima et al., there is nothing in the citation that provides a rationale for one skilled in the art reading Nakajima et al. and Sunstar KK to derive the subject combination of components. More particularly, the citations do not suggest selectively combining a diacid and disaccharide from the various possible components described by Sunstar KK and adding to such combination a guanadimium salt as a means of providing a composition with enhanced hair restorative benefits.

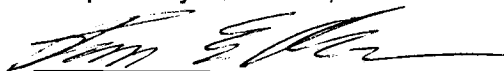
Regarding the obviousness-type double patenting rejections, it is respectfully submitted that the guanidinium salt/disaccharide/diacid-containing compositions of the subject invention have been shown to offer significant and unexpected hair treatment advantages over disaccharide/diacid-containing compositions. It is

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respectfully submitted that among other distinguishing features, none of claims of US Serial No. 11/547,577 or US Serial No. 11/547,576 contain any disclosure of a guanidinium salt as required by the subject claims. Accordingly it is respectfully submitted that the subject claims are not obvious over same. Claim 1 of US 12/086,091 is directed to **a hair straightening composition having a pH from 12 to 14 and comprising at least one hydroxide ion generator** and a disaccharide selected from trehalose, cellobiose or mixtures thereof. Although guanidinium salt is set forth as an additional component in claims 6 and 7, at present there is nothing in the claims of the '091 application that discloses or suggests the weight ratio of guanidinium salt to disaccharide set forth by the subject claims. Given their other differences, it is respectfully submitted that the subject claims patentably distinguish over those of the '091 application. Accordingly, the restriction requirement is respectfully traversed and reconsideration thereof respectfully requested.

If a telephone conversation would be of assistance in advancing the prosecution of the present application, applicants' undersigned attorney invites the Examiner to telephone at the number provided.

Respectfully submitted,



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**(54) POLYSACCHARIDE AND PRODUCTION THEREOF**

(57)Abstract:

**PURPOSE:** To obtain a polysaccharide useful as a thickening agent, etc., having specific constituent components, constitution ratio and molecular weight industrially and advantageously, by cultivating a callus derived from a plant belonging to the genus *Polianthes* L., in a plant hormone containing medium and collecting a product from a culture mixture.

**CONSTITUTION:** A callus derived from a plant (e.g. *Polianthes tuberosa* L.) belonging to the genus *Polianthes* L., is cultivated in a plant hormone containing medium and a polysaccharide is collected from the culture mixture to give an acidic heteropolysaccharide which contains arabinose, mannose, galactose, glucuronic acid and xylose as constituent components, bond style and constitution ratio shown by the formula and  $1.0 \times 10^4 W_2 \times 10^7$ .

$$A r + 1 = \frac{1}{2} (A r + 1 + G + L + 1 - \frac{1}{2} + 3 M + x + 1 - \frac{1}{2})$$

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10~19; 14~22; 14~22; 01~03